Fig. 1

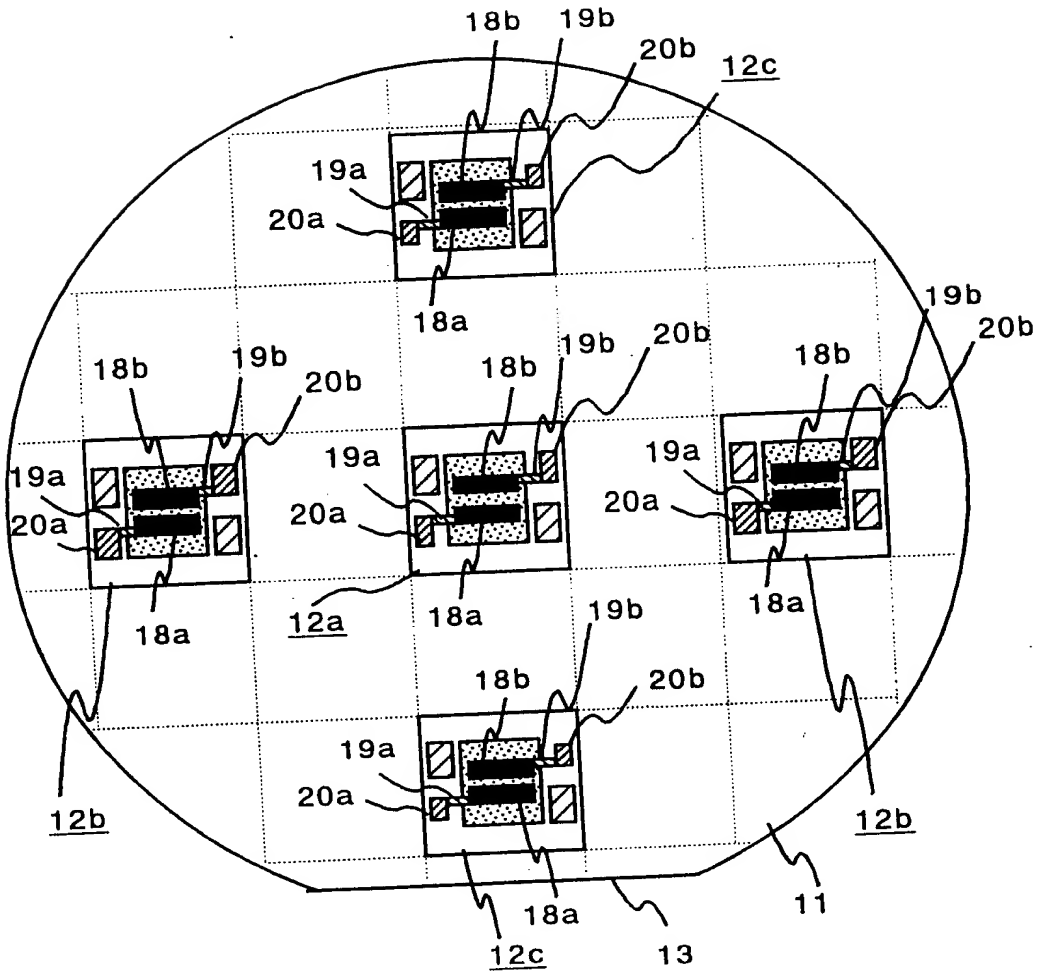
18b
19b
20b
12c
19a
20a
18a
18b
19b
20b
19a
20a
18a
12a
18b
19b
20b
19a
20a
18a
19b
20b
18b
19a
20a
18a
12b
18b
19b
20b
19a
20a
18a
12c
13
11
12b

Fig.2

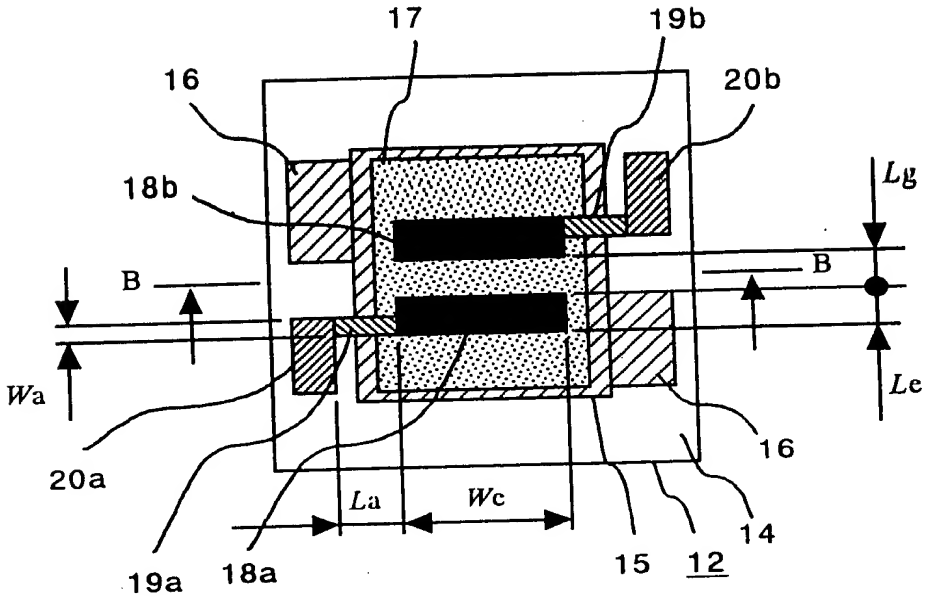
17
19b
16
20b
18b
Lg
B
B
Wa
Le
20a
16
La
Wc
14
19a
18a
15
12

Fig.3

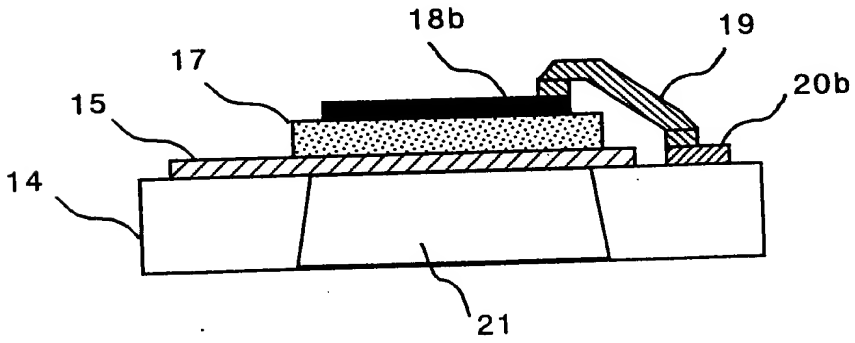
18b
19
17
20b
15
14
21

Fig.4

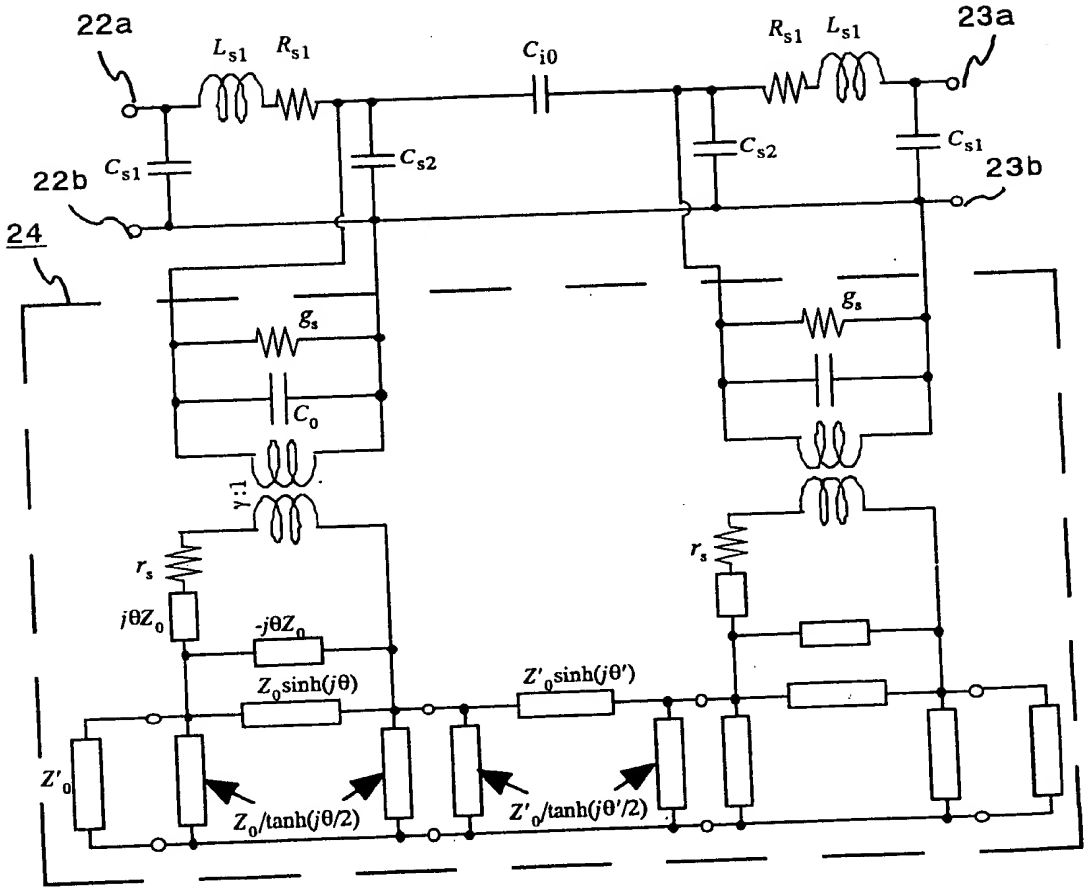
22a
23a
22b
23b
24
L_{s1}
R_{s1}
C_{i0}
C_{s1}
C_{s2}
g_s
C_0
γ:1
r_s
$jθZ_0$
$-jθZ_0$
$Z_0 \sinh(jθ)$
$Z'_0 \sinh(jθ')$
Z'_0
$Z_0/\tanh(jθ/2)$
$Z'_0/\tanh(jθ'/2)$

Fig.5

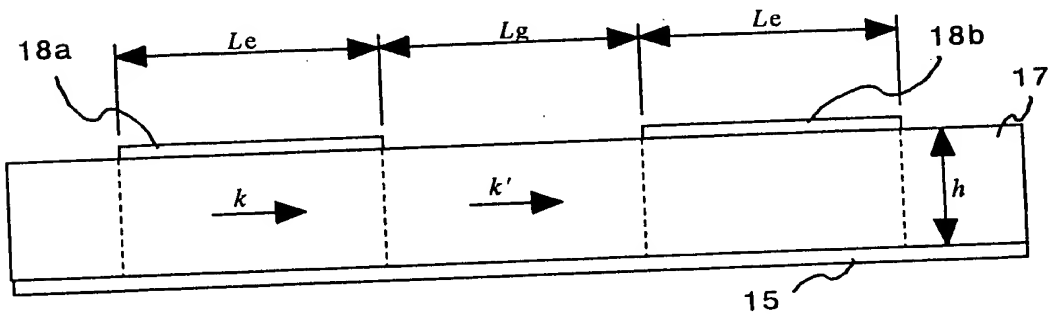
18a
18b
17
Le
Lg
Le
k
k'
h
15

Fig.6

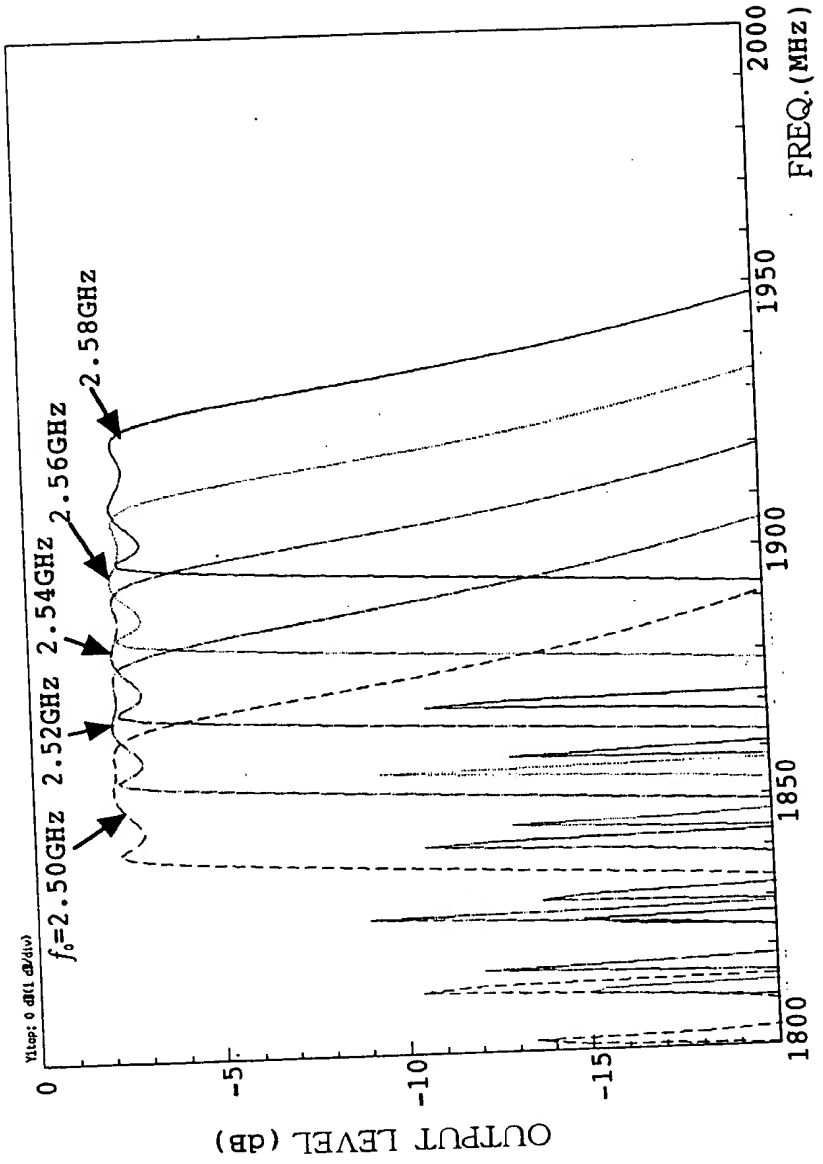
FREQ.(MHz)
2000
1950
1900
1850
1800
OUTPUT LEVEL (dB)
0
-5
-10
-15
Ytop: 0 dB(1 dB/div)
f_0=2.50GHz
2.52GHz
2.54GHz
2.56GHz
2.58GHz

Fig.7

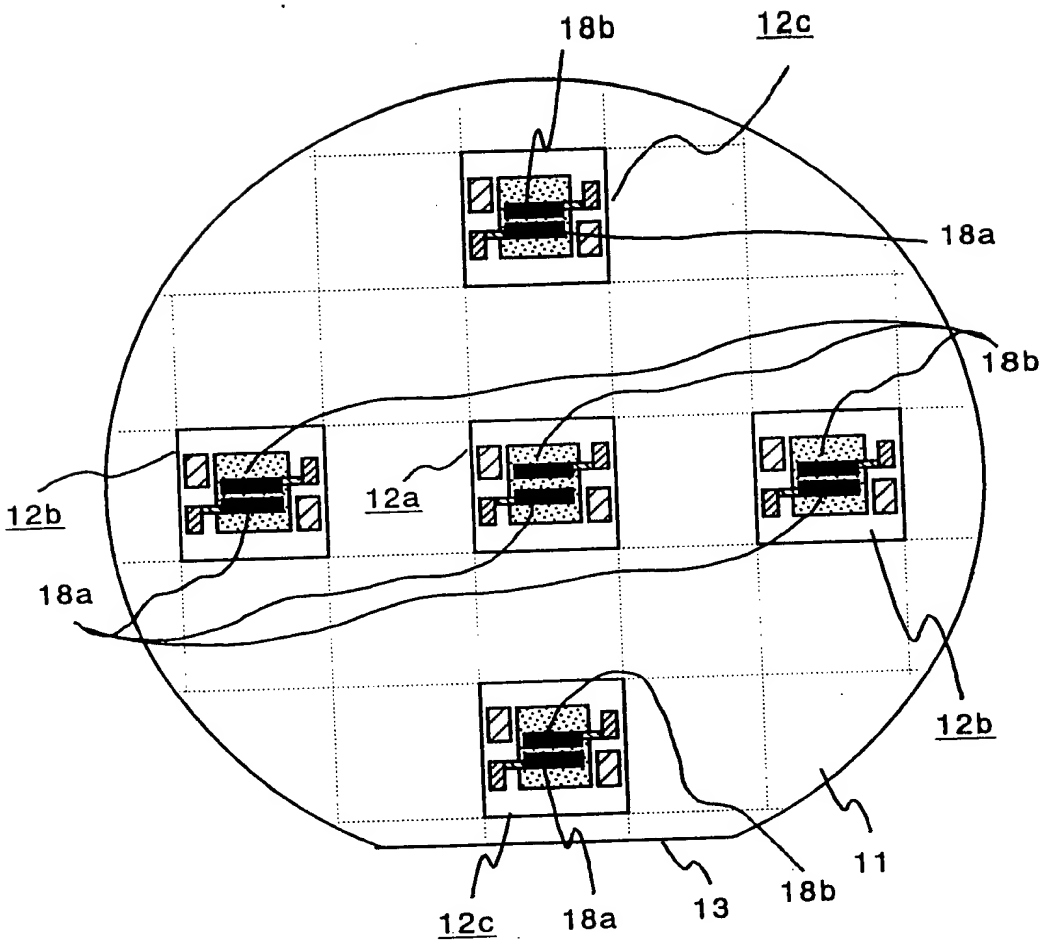

Fig.8

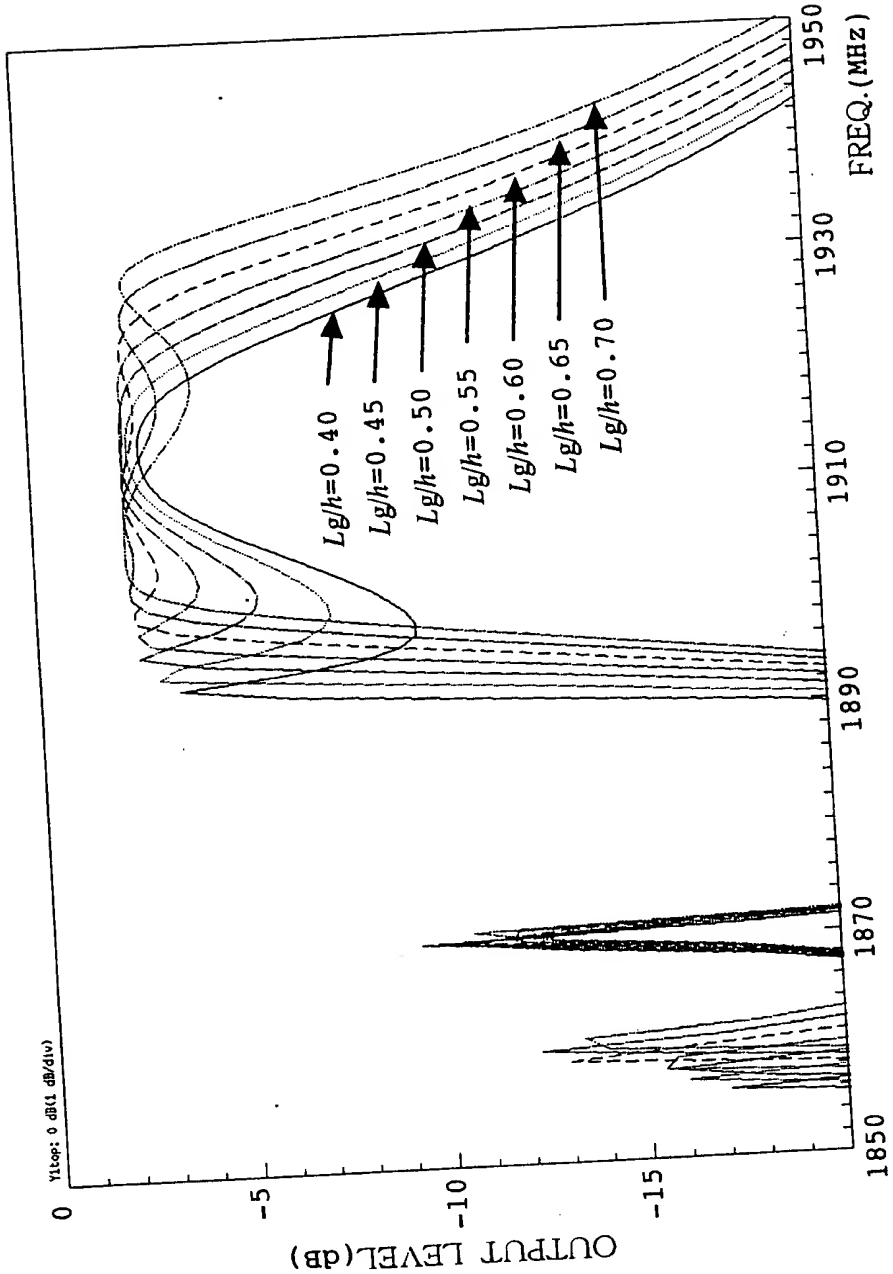
Lg/h=0.40
Lg/h=0.45
Lg/h=0.50
Lg/h=0.55
Lg/h=0.60
Lg/h=0.65
Lg/h=0.70
FREQ.(MHz)
1850
1870
1890
1910
1930
1950
OUTPUT LEVEL(dB)
0
-5
-10
-15
Ytop: 0 dB(1 dB/div)

Fig.9

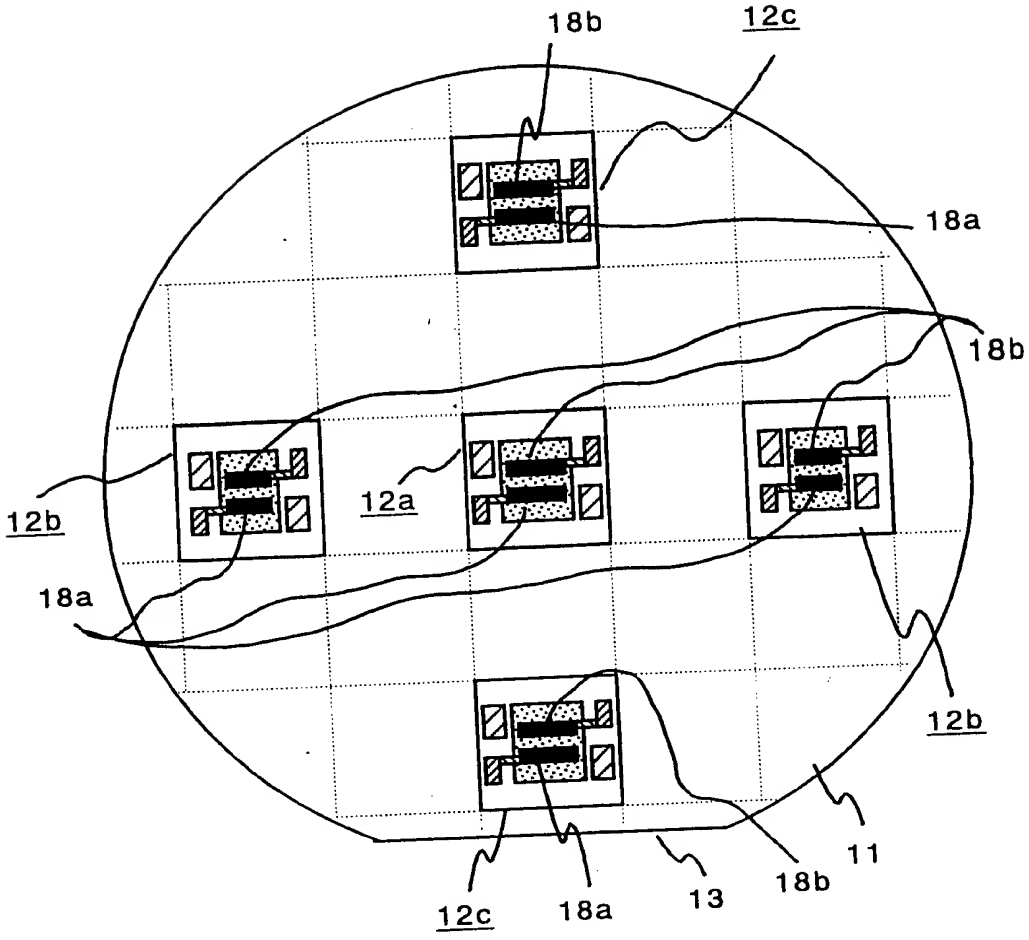

Fig.10

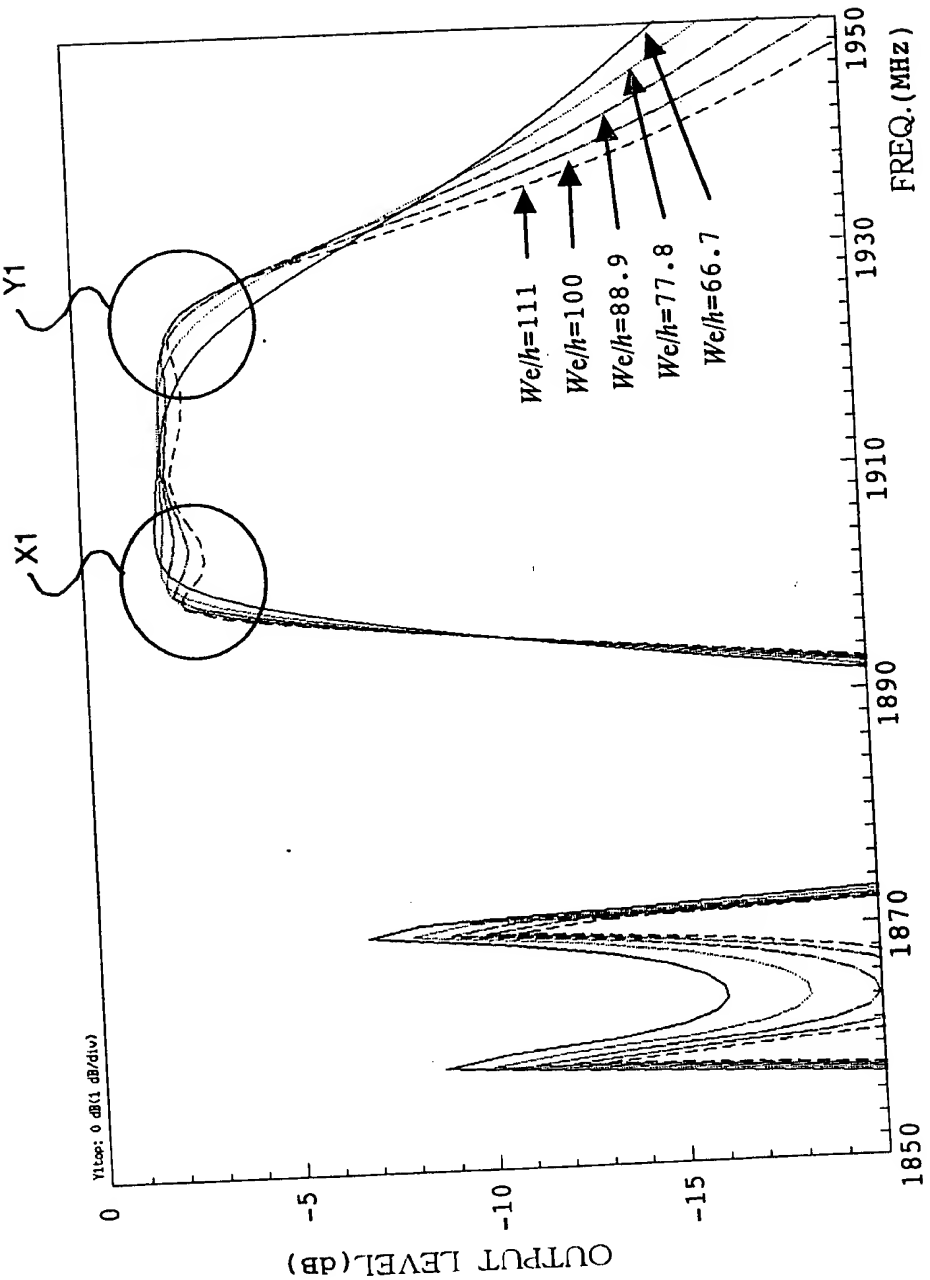
OUTPUT LEVEL(dB)
0
-5
-10
-15
Ytop: 0 dB(1 dB/div)
1850
1870
1890
1910
1930
1950
FREQ.(MHz)
We/h=111
We/h=100
We/h=88.9
We/h=77.8
We/h=66.7
Y1
X1

Fig.11

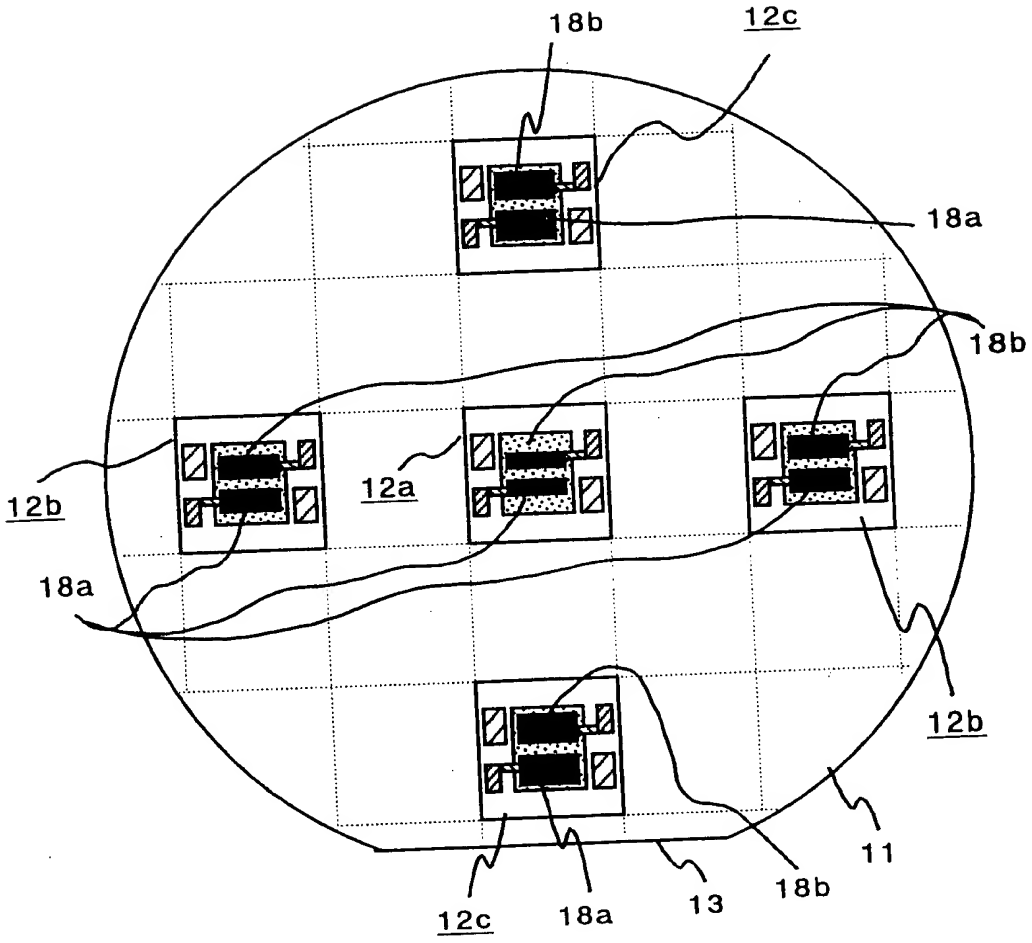

Fig.12

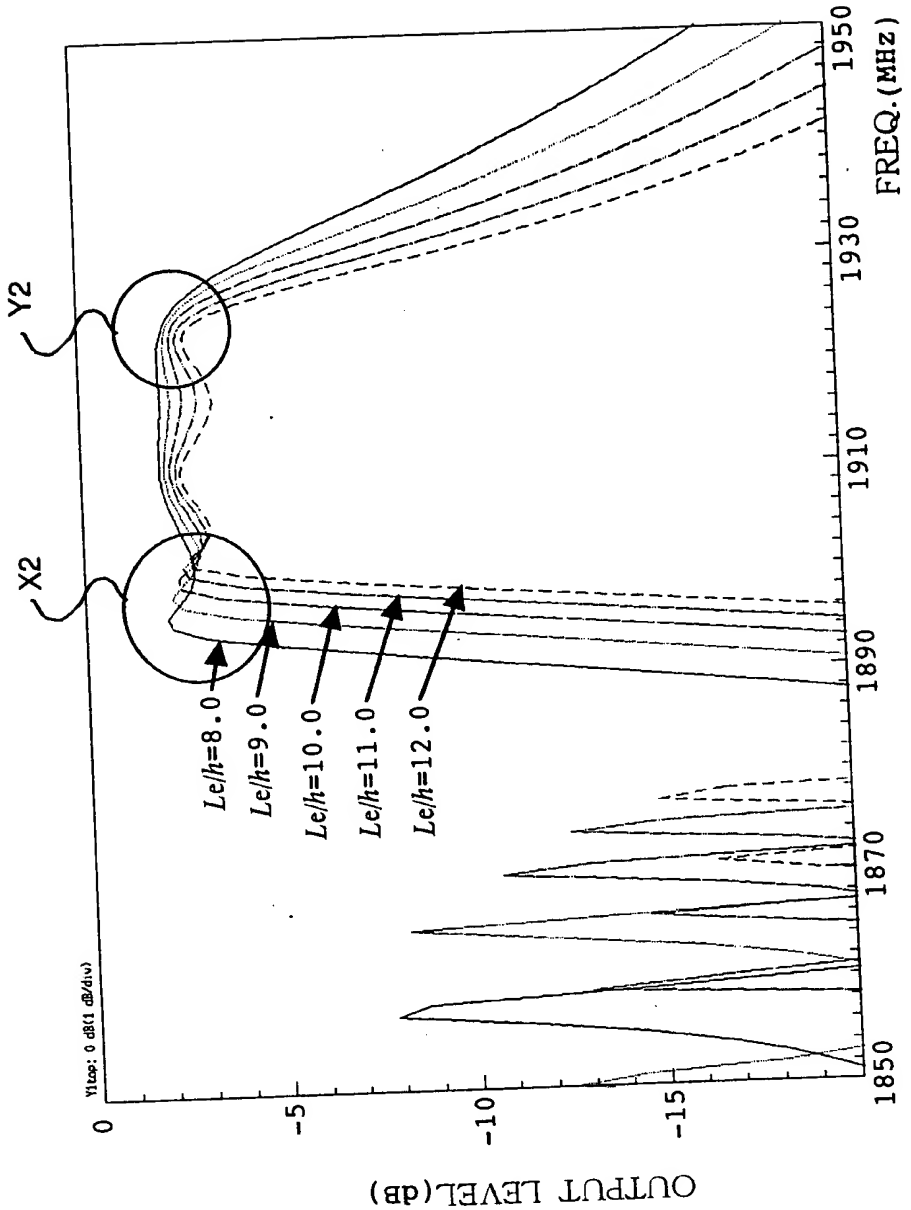
Y2
X2
Le/h=8.0
Le/h=9.0
Le/h=10.0
Le/h=11.0
Le/h=12.0
1950
1930
1910
1890
1870
1850
FREQ.(MHz)
0
-5
-10
-15
OUTPUT LEVEL(dB)

Fig.13

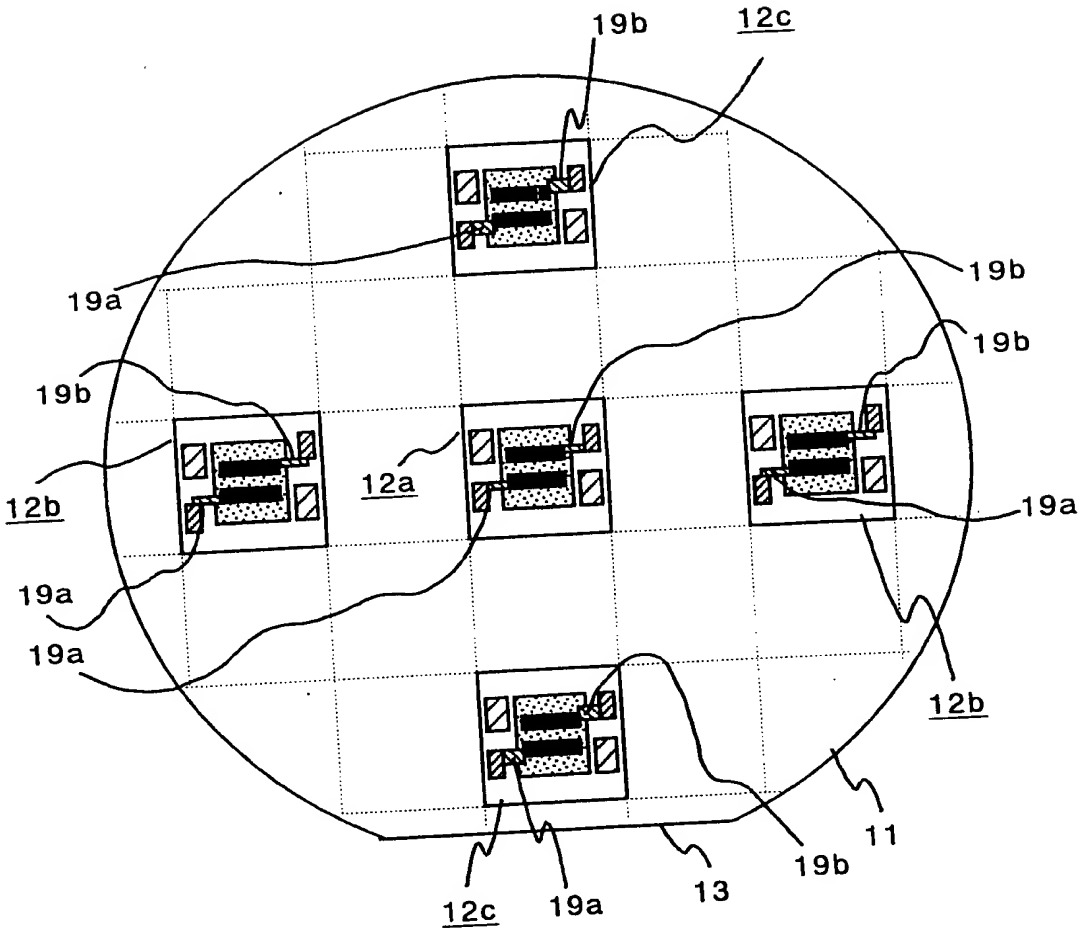

Fig.14

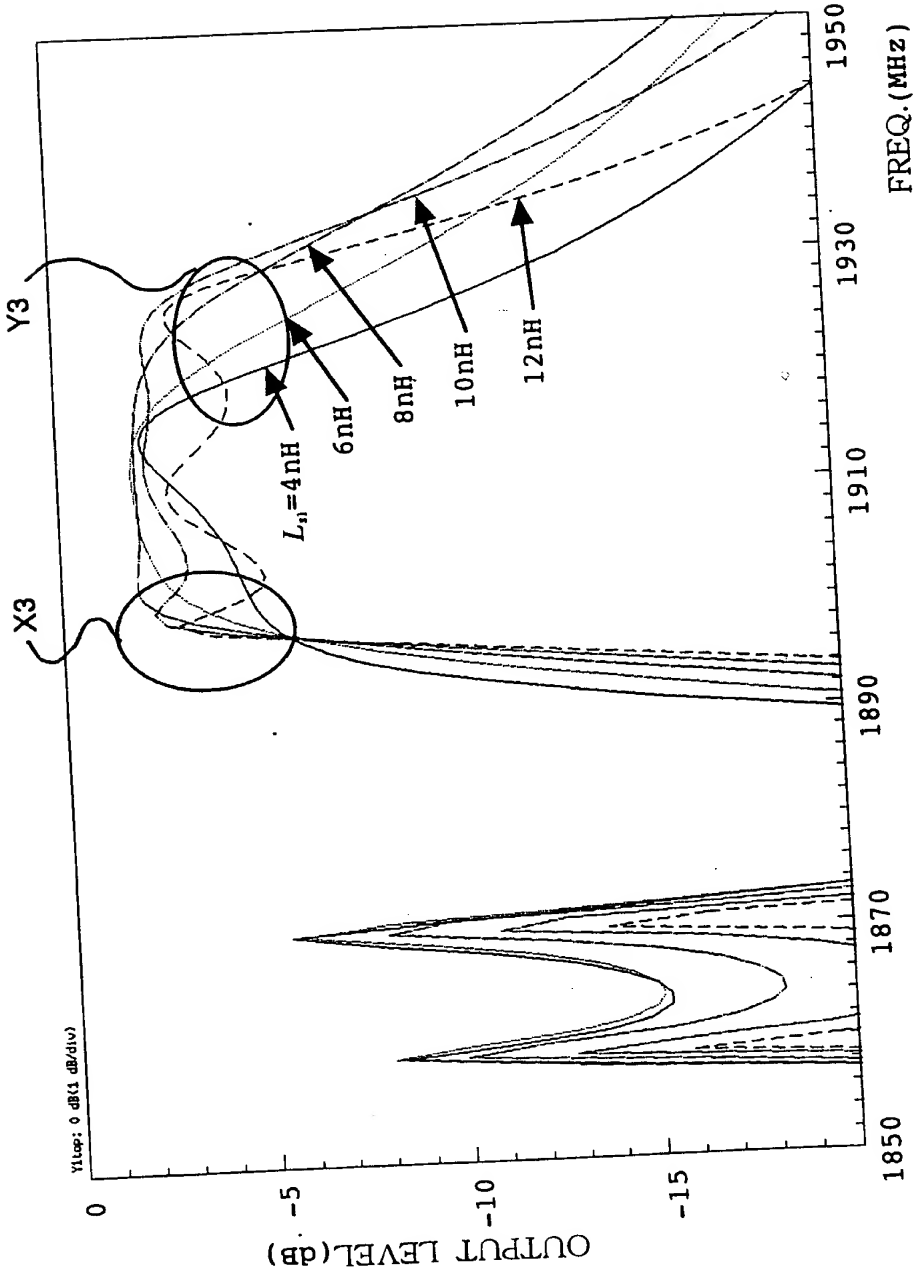
Y3
X3
L_n=4nH
6nH
8nH
10nH
12nH
1850
1870
1890
1910
1930
1950
FREQ.(MHz)
0
-5
-10
-15
OUTPUT LEVEL(dB)
Ylog: 0 dB(1 dB/div)

Fig.15

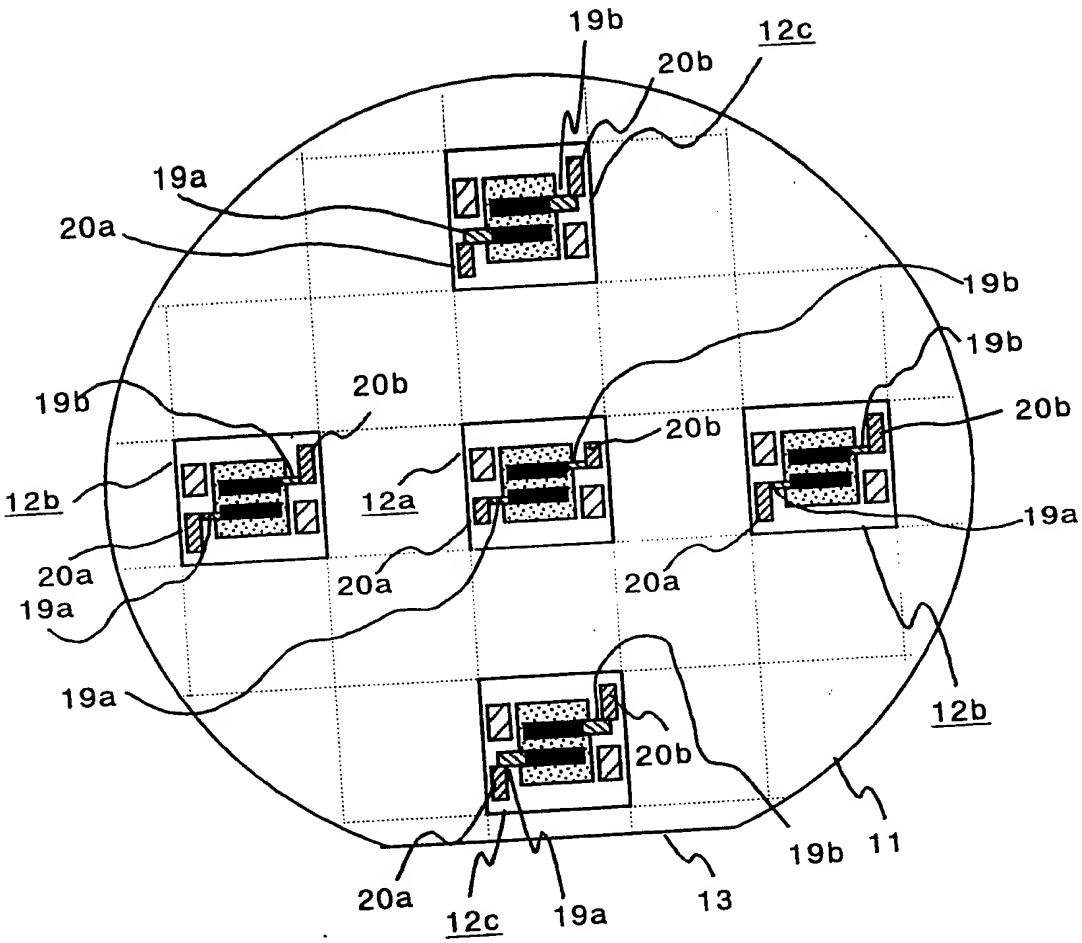
19b
12c
20b
19a
20a
19b
19b
19b
20b
20b
12b
12a
20b
20a
20a
20a
19a
19a
19a
12b
20b
19b
11
20a
12c
19a
13

Fig.16

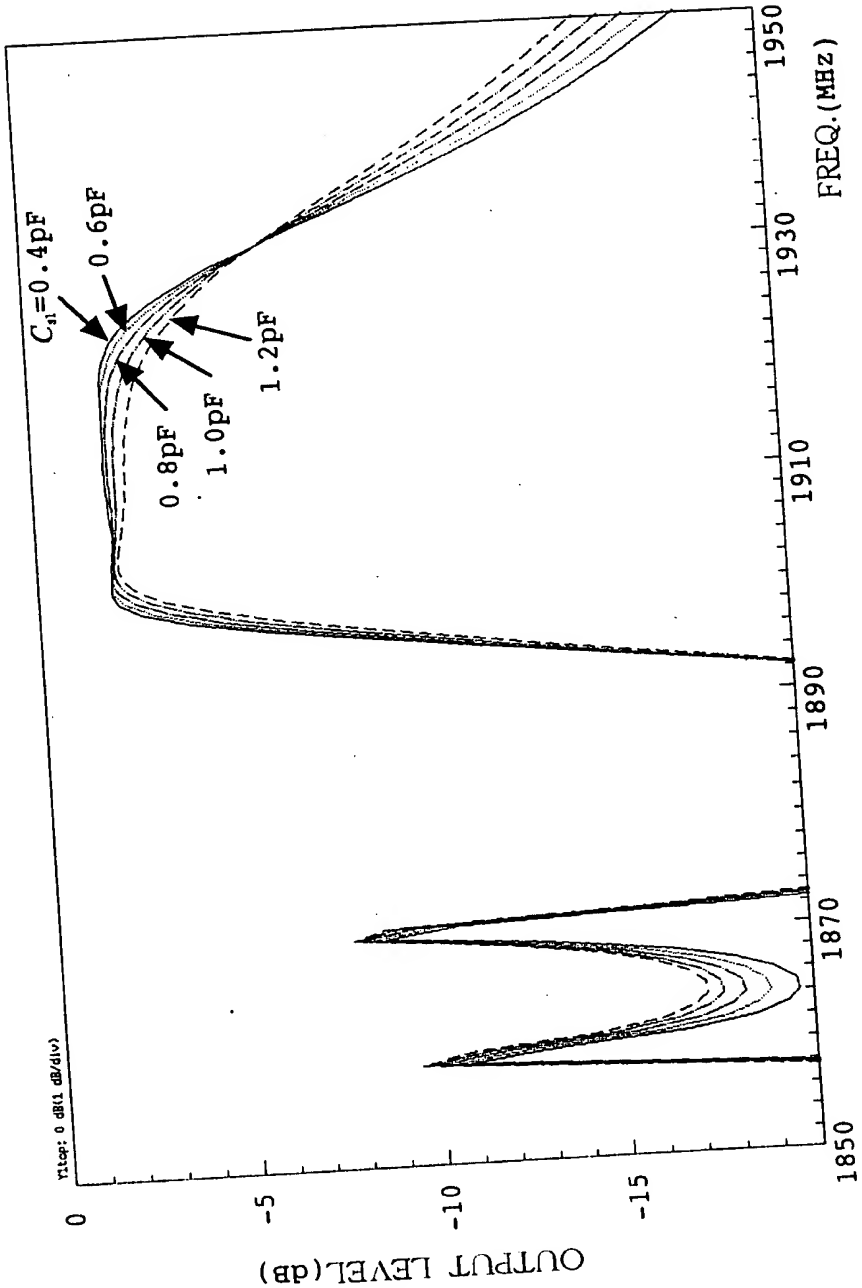
C_{a1}=0.4pF
0.6pF
0.8pF
1.0pF
1.2pF
FREQ.(MHz)
1850
1870
1890
1910
1930
1950
OUTPUT LEVEL(dB)
0
-5
-10
-15
Ytop: 0 dB(1 dB/div)

Fig.17

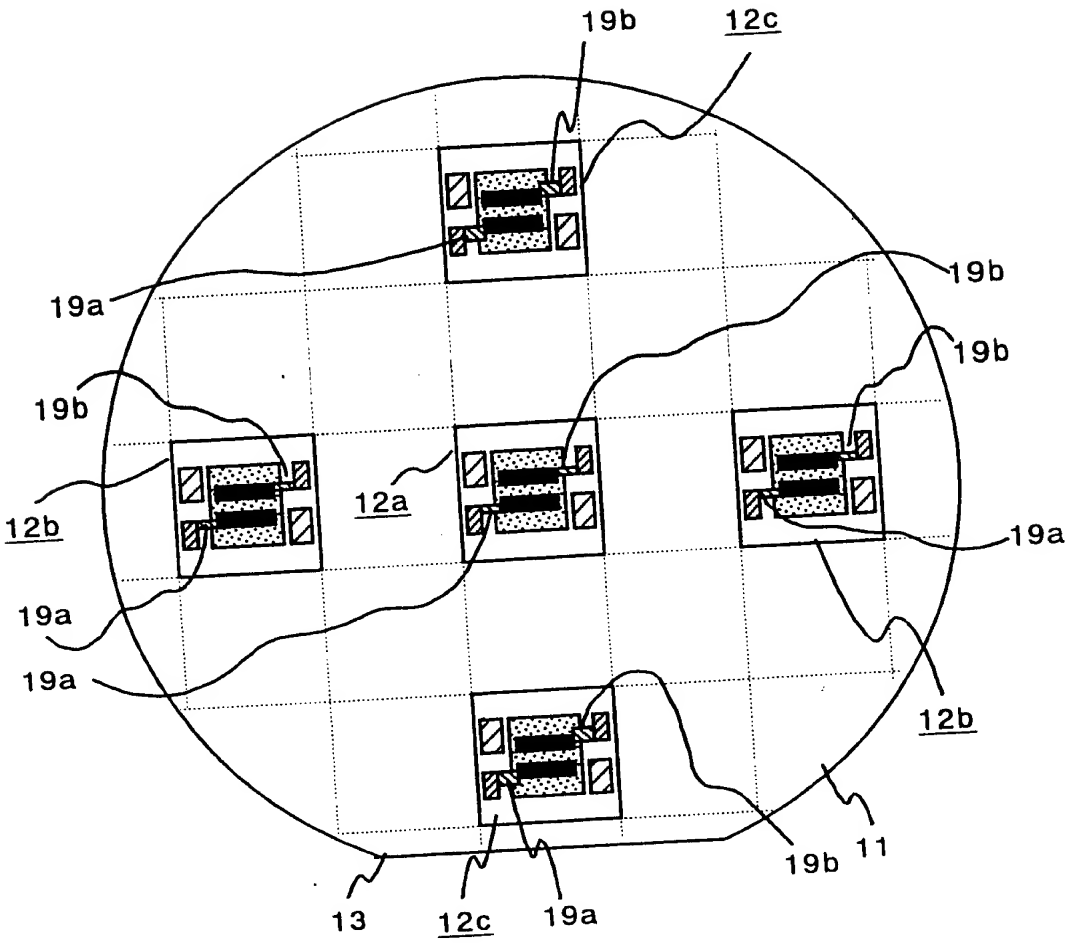

Fig.18

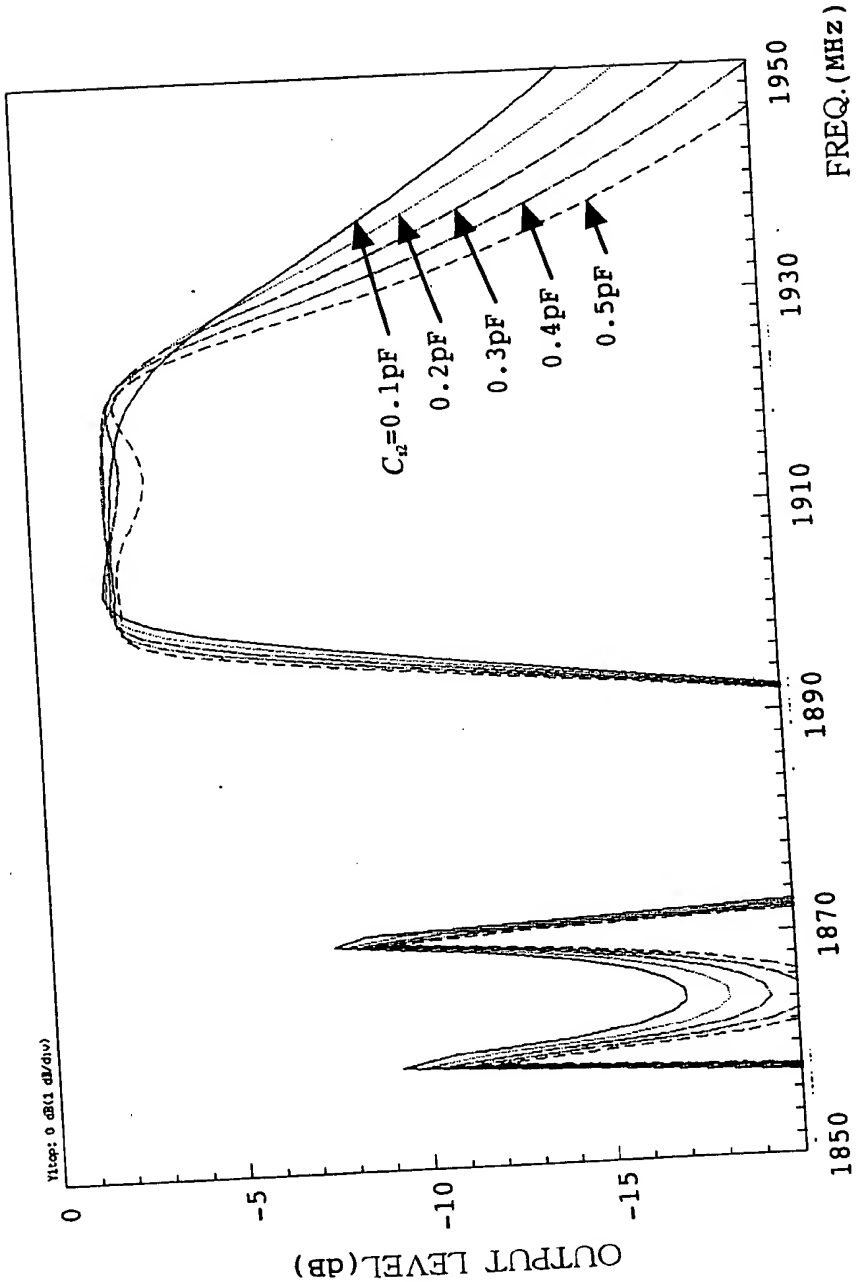
OUTPUT LEVEL(dB)
0
-5
-10
-15
1850
1870
1890
1910
1930
1950
FREQ.(MHz)
C_a=0.1pF
0.2pF
0.3pF
0.4pF
0.5pF

Fig.19

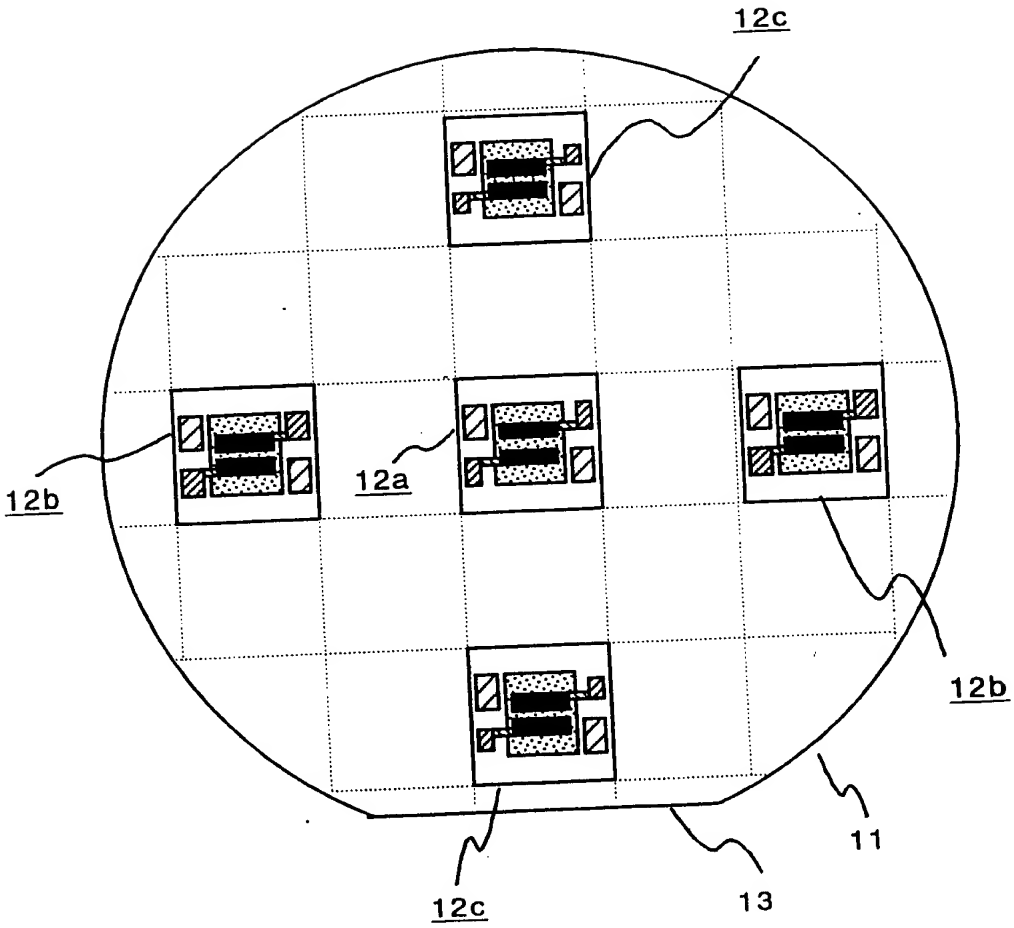

Fig.20

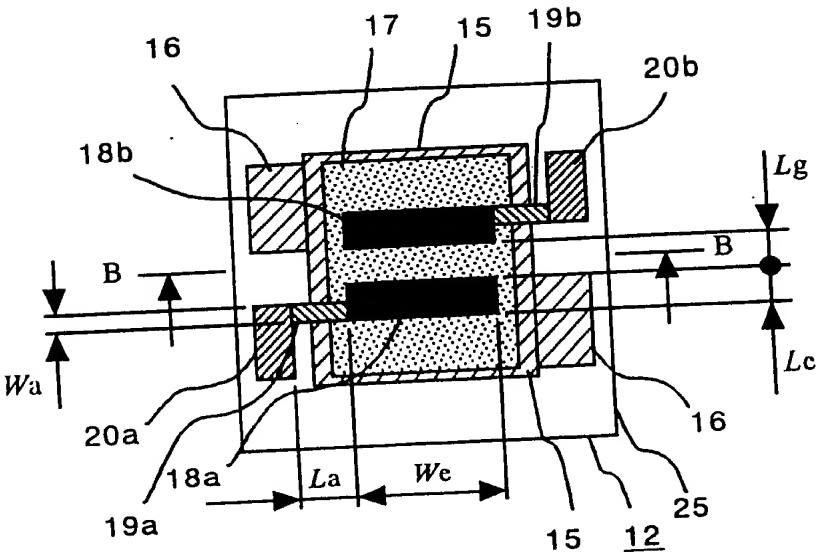
16
17
15
19b
20b
18b
Lg
B
B
Wa
Lc
20a
16
18a
La
We
25
19a
15
12

Fig.21

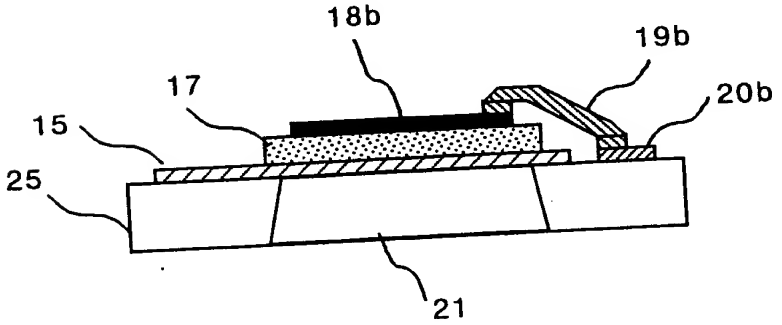
18b
19b
17
20b
15
25
21

Fig.22

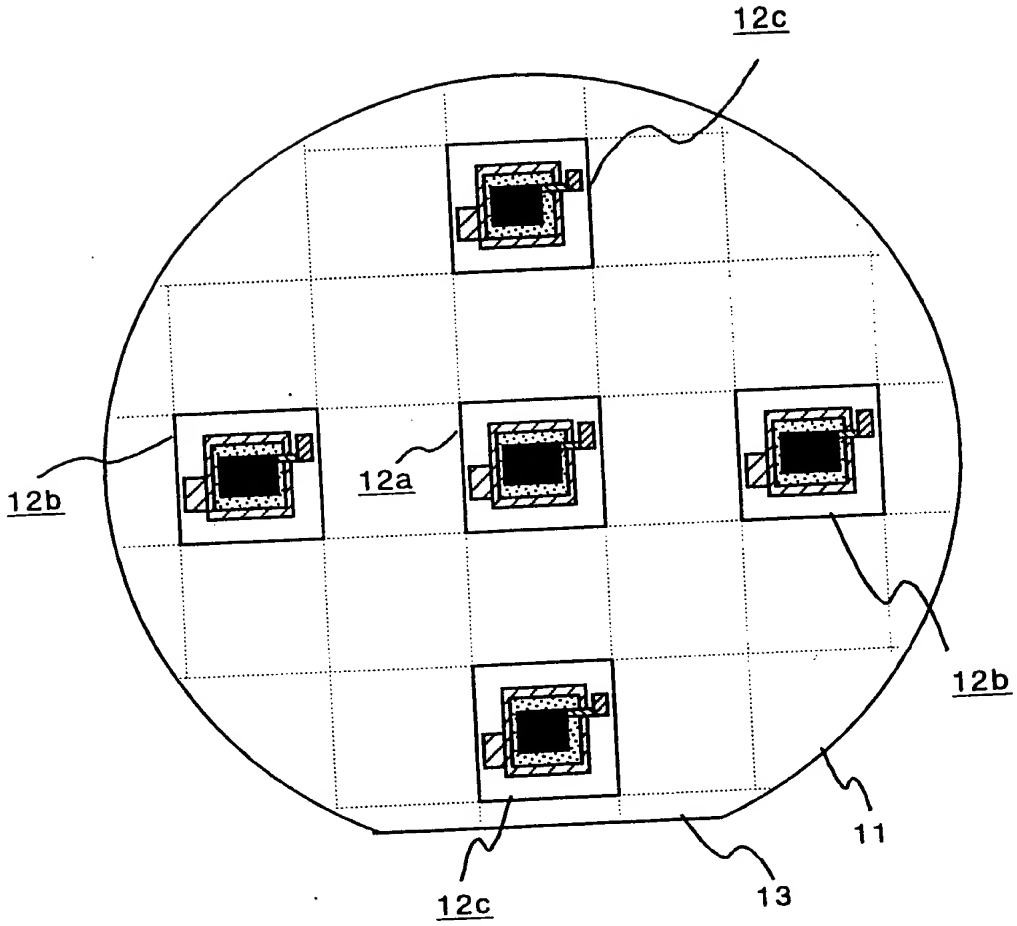

Fig.23

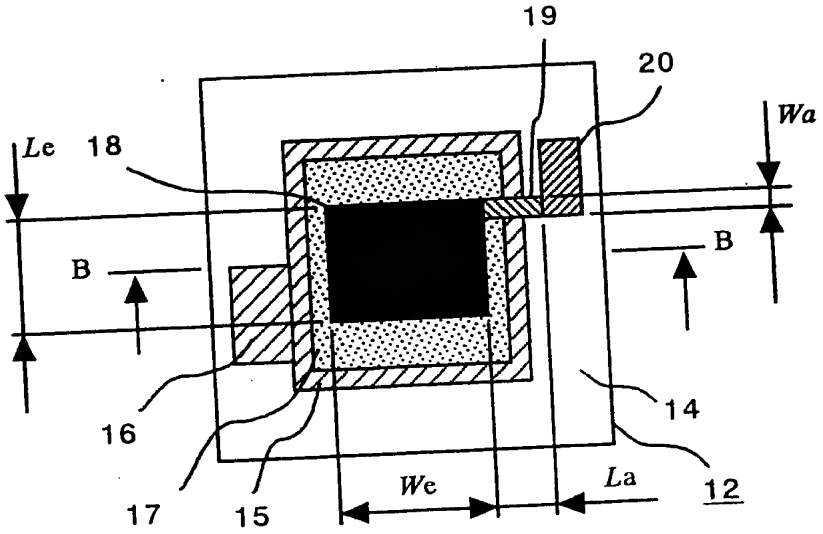

Fig.24

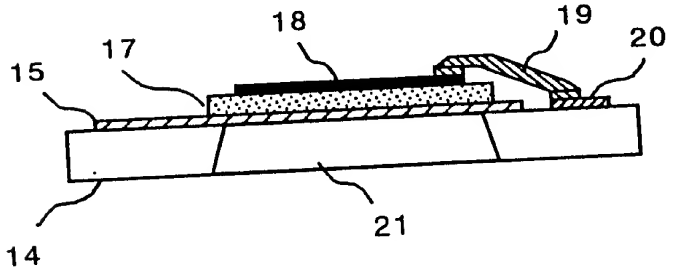

Fig.25

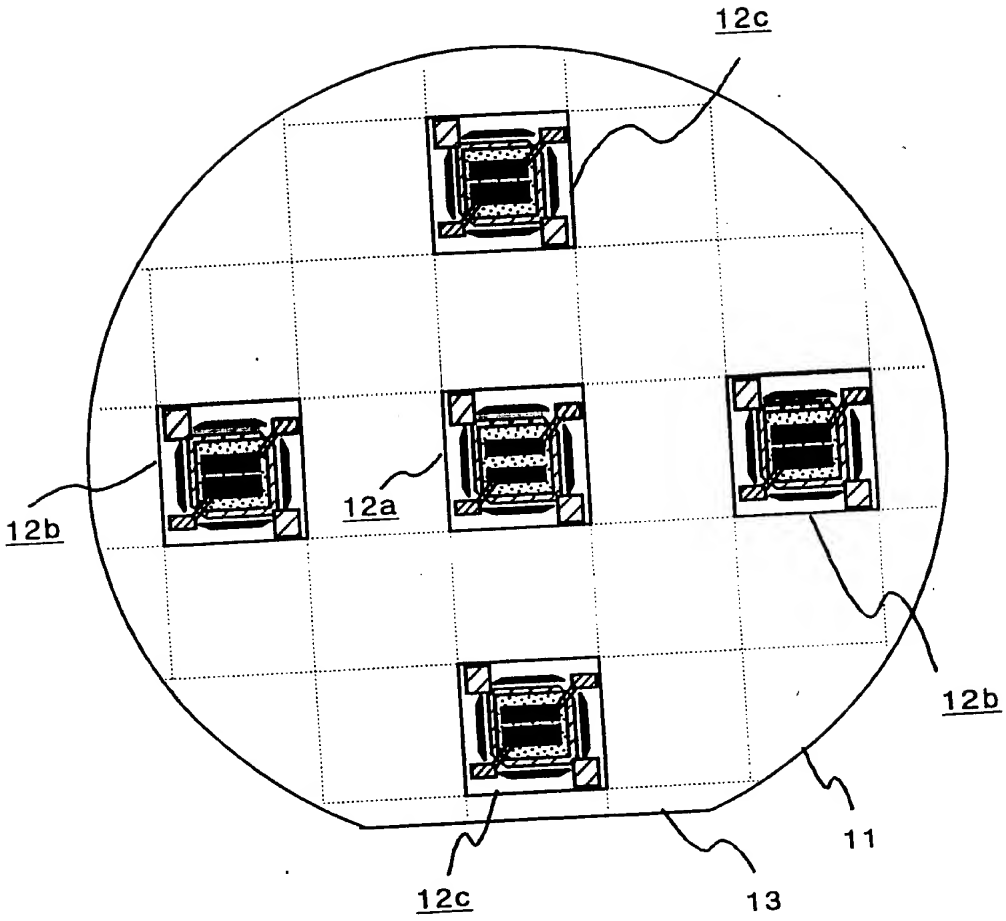

Fig.26

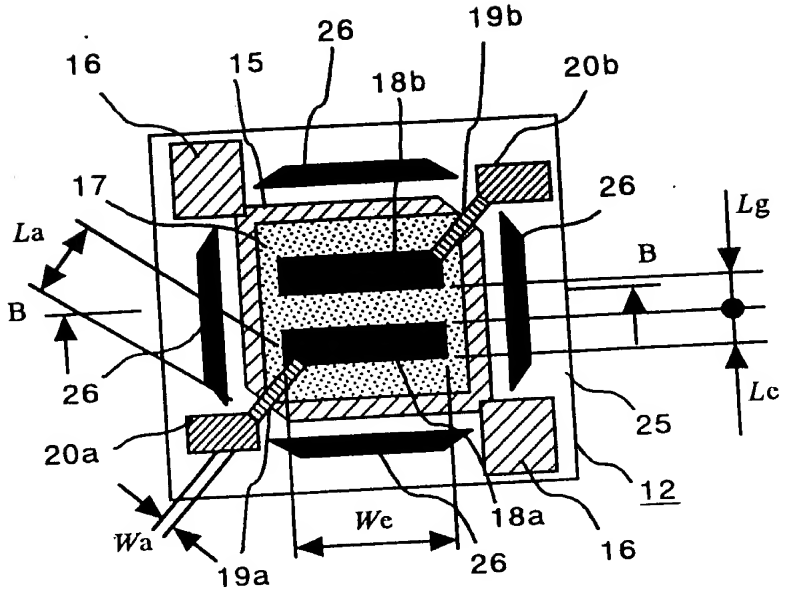
16
15
26
18b
19b
20b
17
26
Lg
La
B
B
26
25
Lc
20a
12
We
18a
16
Wa
19a
26

Fig.27

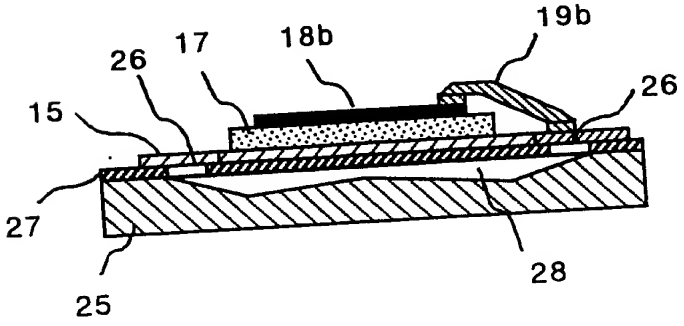
19b
26
17
18b
26
15
27
28
25

Fig.28

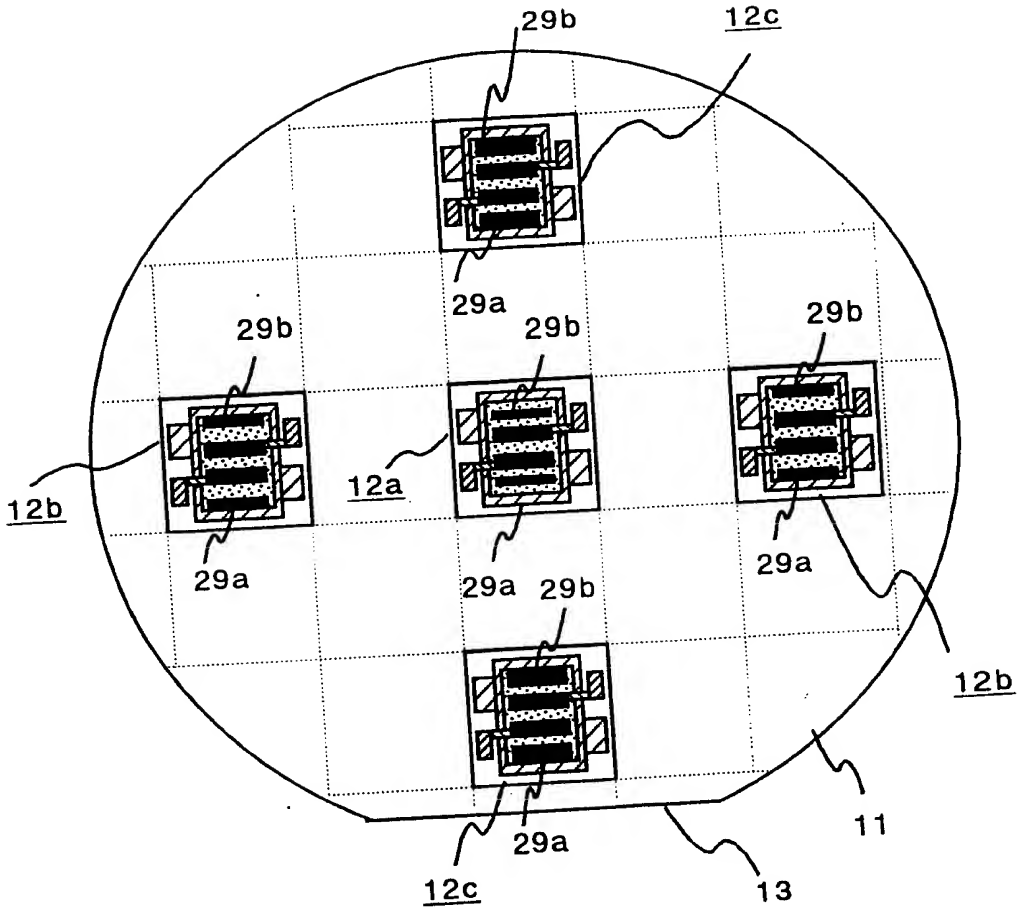

Fig.29

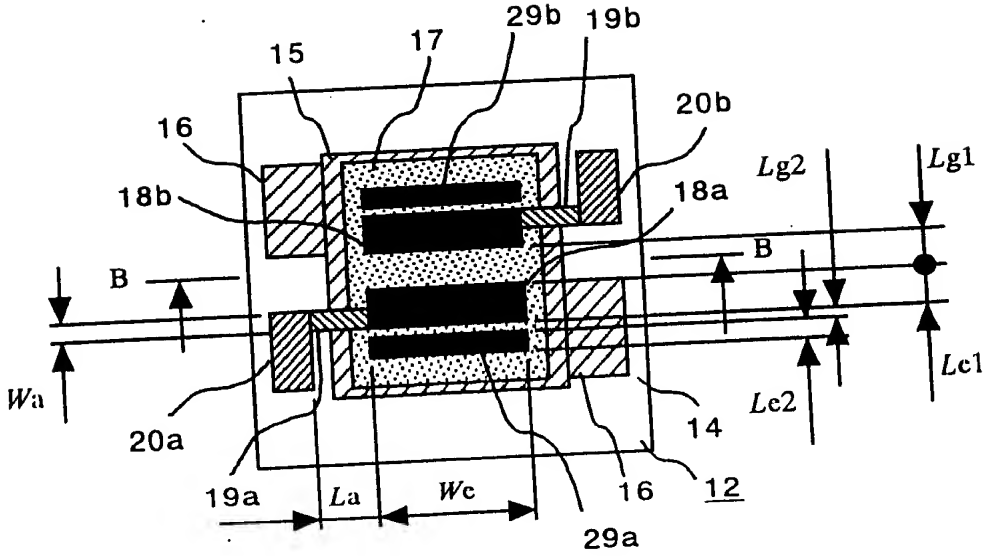
29b
19b
15
17
20b
16
Lg2
Lg1
18b
18a
B
B
Lc1
Wa
Lc2
20a
14
19a
La
Wc
16
12
29a

Fig.30

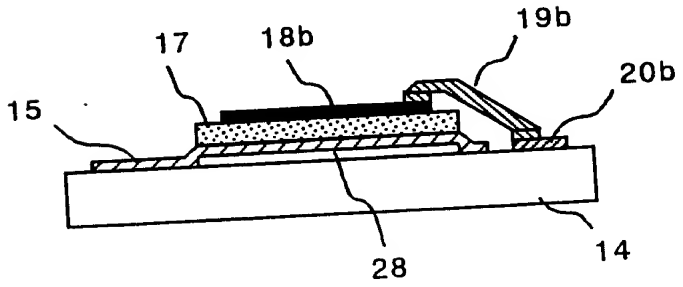
19b
17
18b
20b
15
28
14

Fig.31

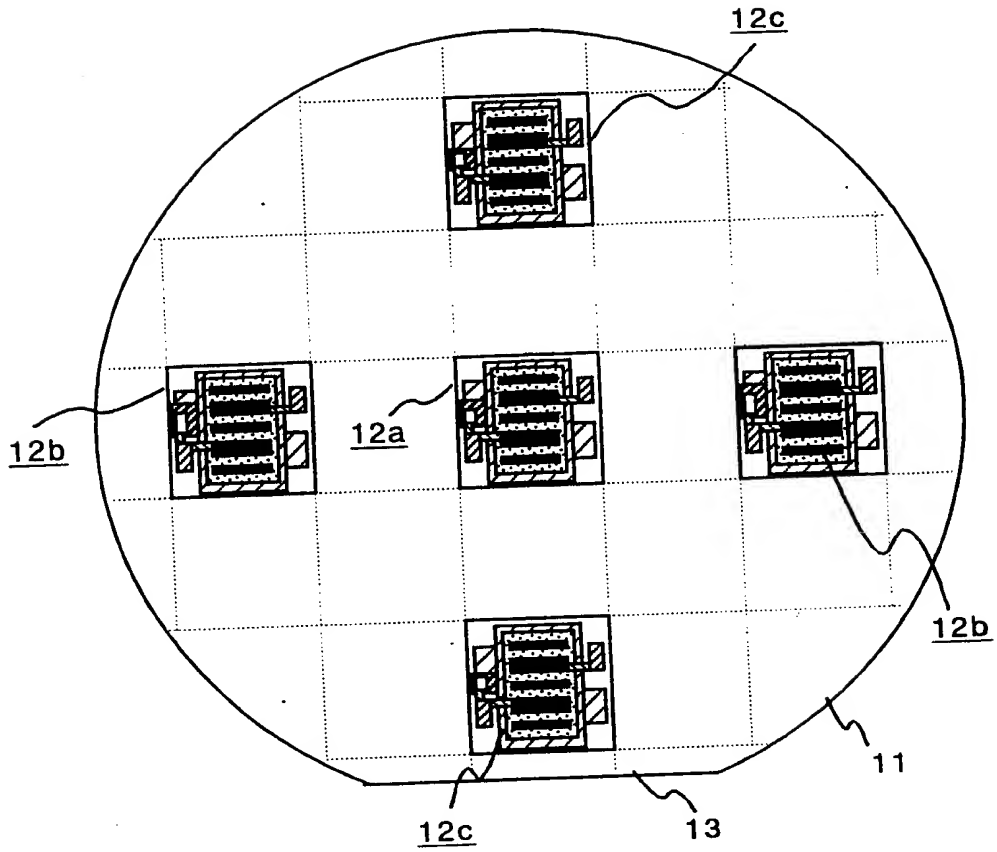

Fig.32

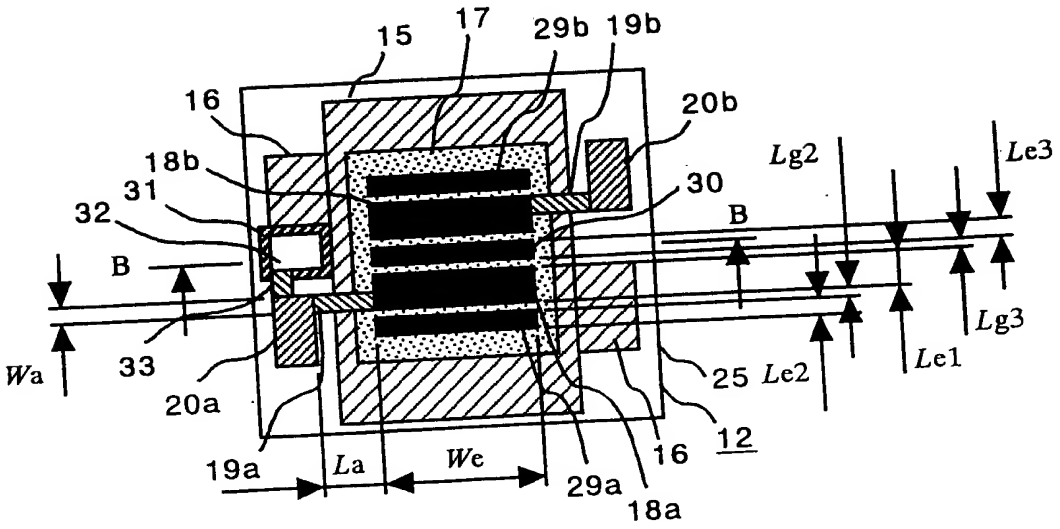
15
17
29b
19b
16
20b
18b
31
32
30
B
Lg2
Le3
B
Wa
33
20a
25
Le2
Le1
Lg3
19a
La
We
29a
16
12
18a

Fig.33

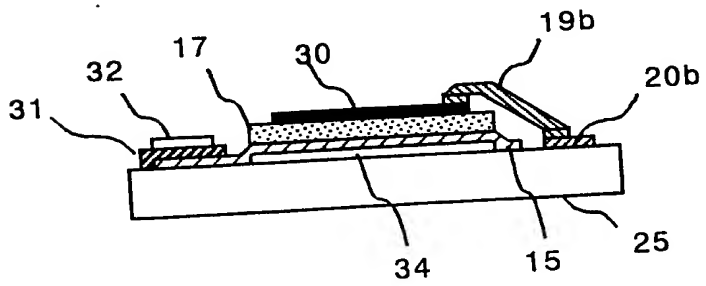
19b
17
30
32
20b
31
34
15
25

Fig.34

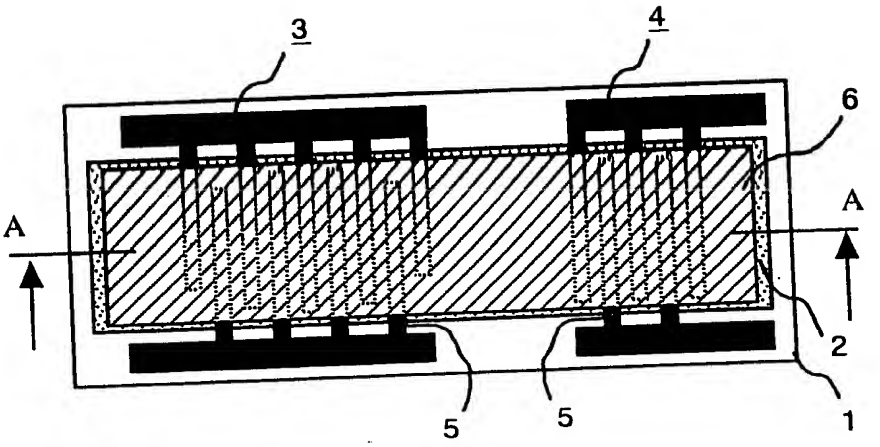

Fig.35

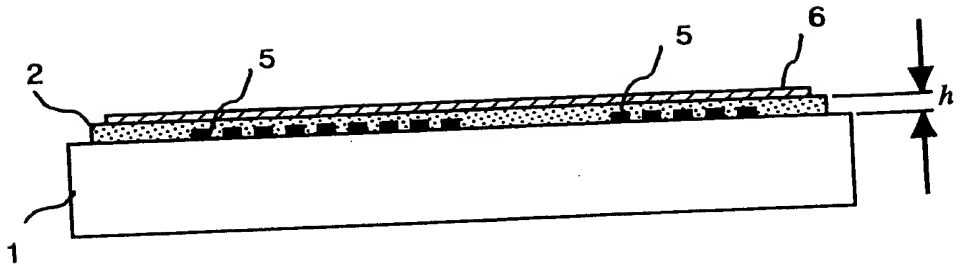

Fig.36

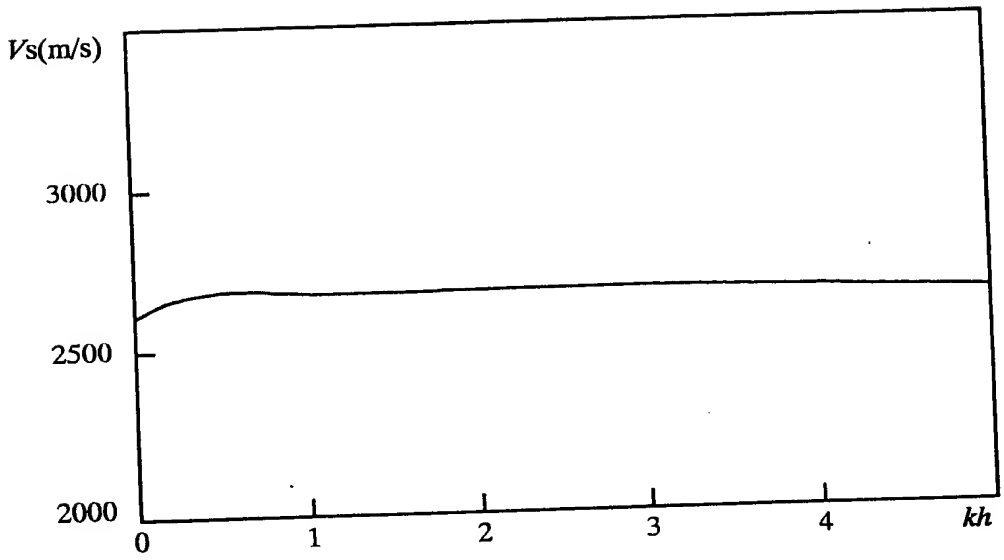

Fig.37

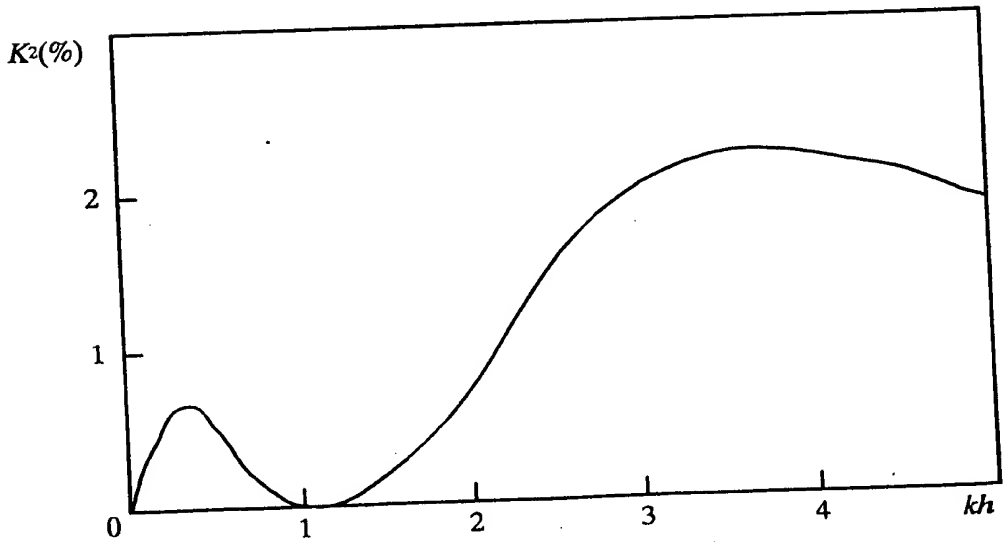

Fig.38

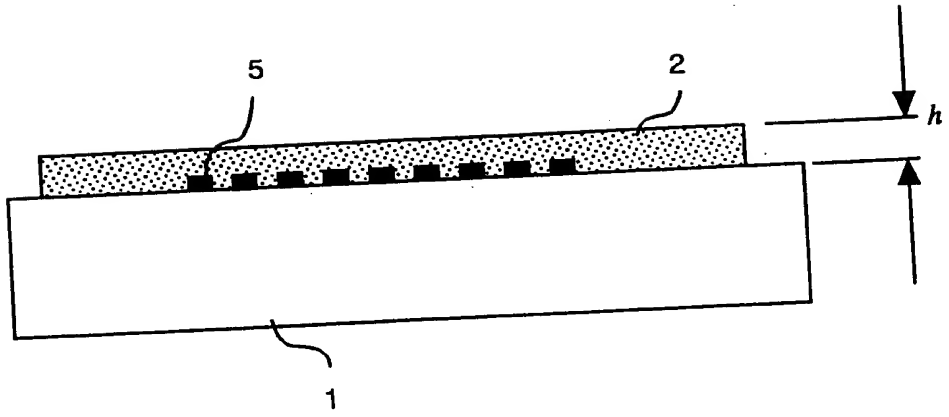

Fig.39

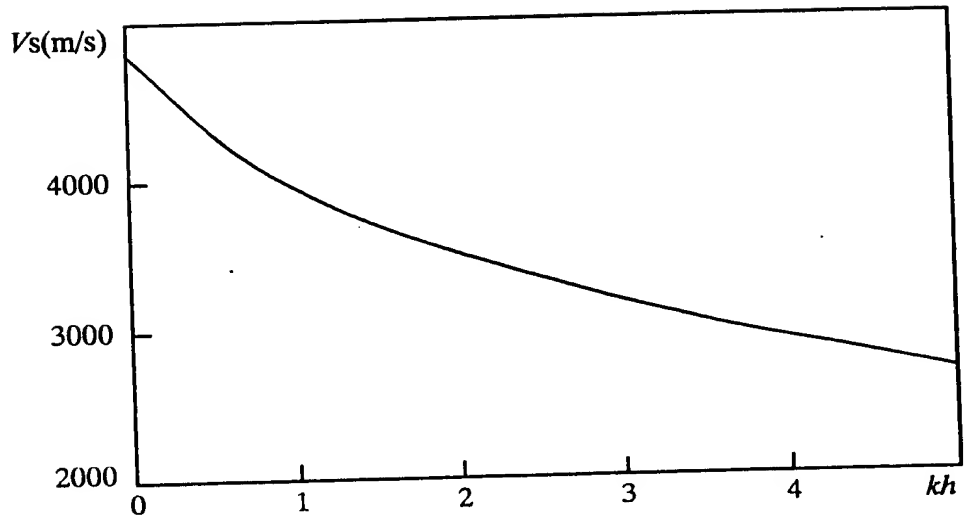

Fig.40

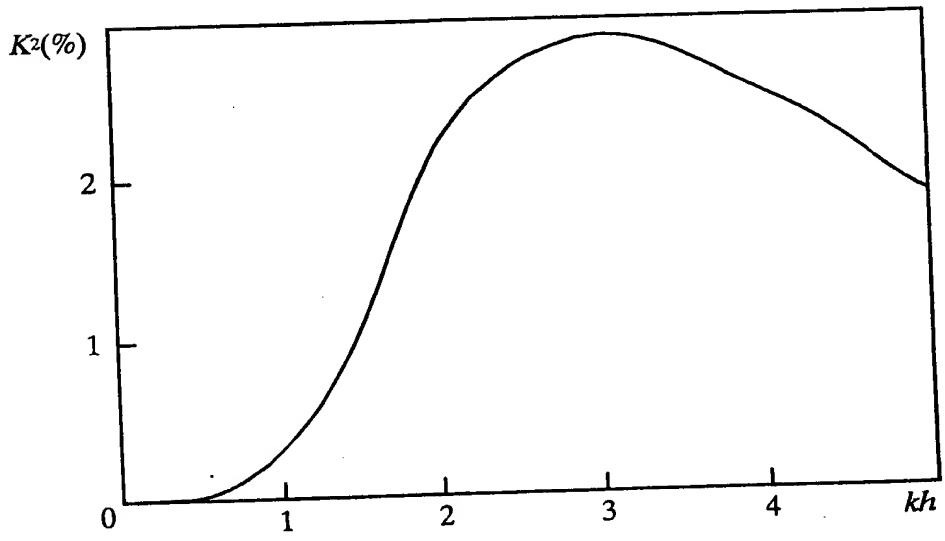

Fig.41

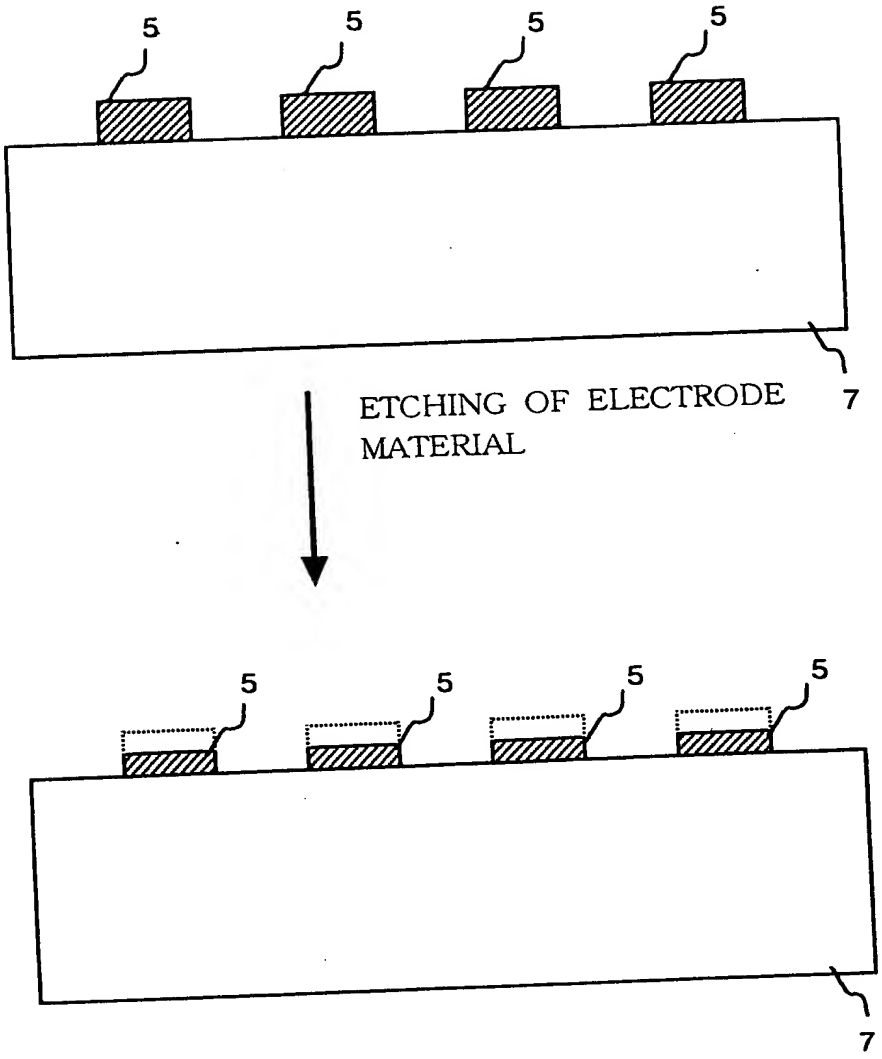

Fig.42

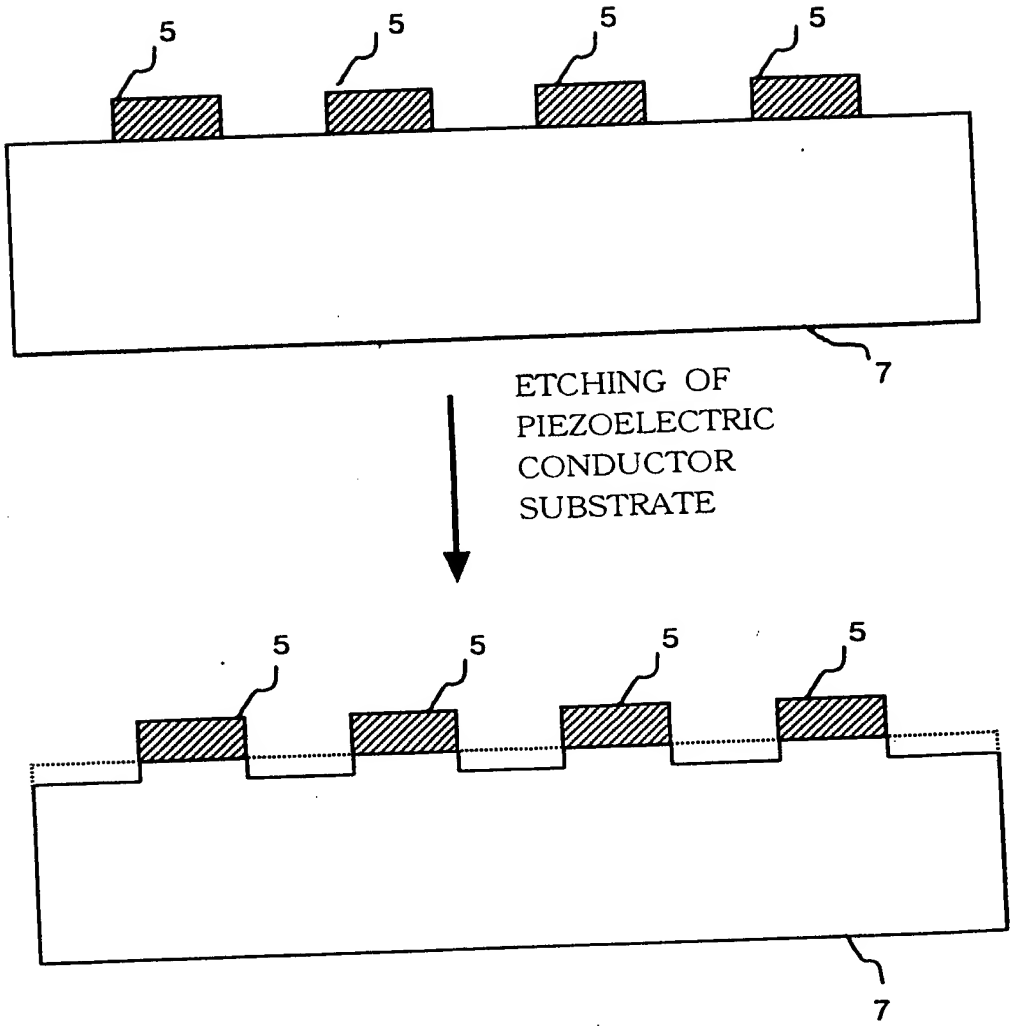
5
5
5
5
7
ETCHING OF
PIEZOELECTRIC
CONDUCTOR
SUBSTRATE
5
5
5
5
7

Fig.43

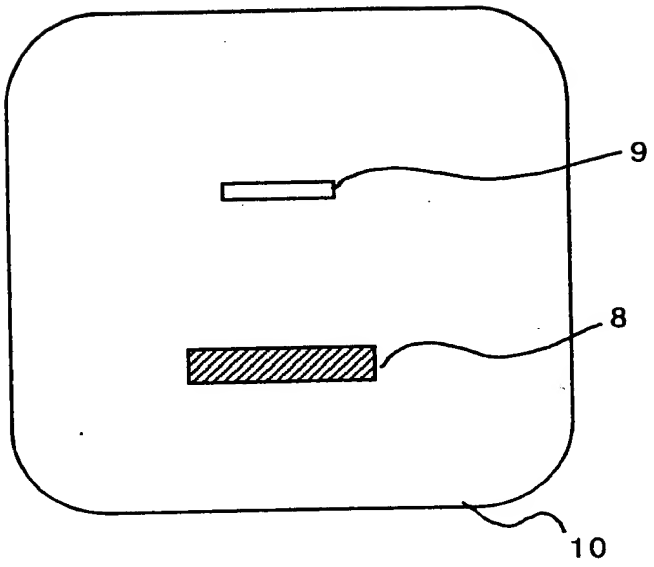

Fig.44